



PATENT APPLICATION

**RESPONSE UNDER 37 CFR §1.116
EXPEDITED PROCEDURE
TECHNOLOGY CENTER ART UNIT 2811**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Yasuhide OHASHI

Group Art Unit: 2811

Application No.: 09/028,456

Examiner: L. Thai

Filed: February 24, 1998

Docket No.: JAO 40056

For: SEMICONDUCTOR DEVICE WITH POWER SOURCE CONDUCTOR
PATTERN AND GROUNDING CONDUCTOR PATTERN (As Amended)

AMENDMENT AFTER FINAL REJECTION UNDER 37 C.F.R. §1.116

Director of the U.S. Patent and Trademark Office
Washington, D. C. 20231

Sir:

In reply to the Office Action mailed February 28, 2001, the period for response being extended by the attached Petition for Extension of Time, please amend the above-identified application as follows:

IN THE CLAIMS:

Please cancel claims 30, 36, 40-43 and 45 without prejudice or disclaimer.

Please replace claims 24, 25, 32, 34, and 46 as follows:

24. (Twice Amended) A semiconductor device, comprising:

a semiconductor chip having a plurality of pads for signal, a plurality of pads for power source and a plurality of pads for grounding, all of the pads for signal being disposed in areas closer to edges of the semiconductor chip than all of the pads for power source and grounding; and

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a flexible substrate having an opening formed therein, the flexible substrate having a power source common lead connected to the pads for power source, the flexible substrate having a grounding common lead connected to the pads for grounding, middle portions of the power source and grounding common leads being continuously positioned inside the opening, and end portions of the power source and grounding common leads being formed on the flexible substrate.

25. (Twice Amended) A semiconductor device, comprising:

a semiconductor chip having a plurality of pads; and

a flexible substrate having an opening formed therein, the flexible substrate having a common lead having an electrical connection branch connected to one of the pads, the common lead having a middle portion, the middle portion extending from two edges of the opening and continuously being positioned inside the opening without connection to the pads, and end portions of the common lead being formed on the flexible substrate.

32. (Twice Amended) A semiconductor device, comprising:

a semiconductor chip having a plurality of pads; and

a flexible substrate having an opening formed therein, the flexible substrate having a plurality of leads formed on the flexible substrate and protruding in the opening, the flexible substrate having a common lead, the common lead having a middle portion, the middle portion extending from two edges of the opening and being continuously positioned inside the opening, and end portions of the common lead being formed on the flexible substrate,

wherein all of the leads protrude in the opening in a direction different from a direction in which the common lead protrudes in the opening, and

wherein the leads and the common lead are connected to the pads.

34. (Twice Amended) A semiconductor chip, comprising:
a plurality of pads for signal;
a plurality of pads for power source; and
a plurality of pads for grounding,
wherein all of the pads for signal are disposed in areas closer to edges of the semiconductor chip than all of the pads for power source and grounding.

46. (Twice Amended) A flexible substrate having an opening formed therein, comprising:
a plurality of leads formed on the flexible substrate and protruding in the opening; and
a common lead having a middle portion, the middle portion extending from two edges of the opening and being continuously positioned inside the opening, and end portions of the common lead being formed on the flexible substrate,
wherein all of the leads protrude in the opening in a direction different from a direction in which the common lead protrudes in the opening.

REMARKS

Claims 24, 25, 32-35, 46 and 47 are pending. By this Amendment claims 30, 36, 40-43 and 45 are canceled and claims 24, 25, 32, 34 and 46 are amended.

The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. §1.121(c)(1)(ii)).

Entry of this Amendment is proper under 37 C.F.R. §1.116 since the Amendment: a) places the application in condition for allowance for the reasons discussed herein; b) does not raise any new issues requiring further search and/or consideration since the amendments amplify issues previously discussed throughout prosecution; c) does not present any additional claims without canceling a corresponding number of finally rejected claims; and d)

places the application in better form for appeal, should an appeal be necessary. The Amendment is necessary and was not earlier presented because it is made in response to arguments raised in the Final Rejection. Entry of the Amendment is thus respectfully requested.

I. Claims 24, 25, 32-35, 46 and 47 Define Patentable Subject Matter

The Office Action rejects claims 24, 34 and 35 under 35 U.S.C. §102(b) over USP 5,252,853 to Michii. This rejection is respectfully traversed.

Michii does not disclose all of the pads for signal being disposed in areas closer to edges of the semiconductor chip than all of the pads for power source and grounding as recited in amended independent claims 24 and 34. Instead, in Michii, some of the ground and power source pads are closer to the edges of the semiconductor chip. See, e.g., Fig. 2. Accordingly, this rejection should be withdrawn.

The Office Action rejects claims 25, 32, 33, 46 and 47 under 37 C.F.R. §102(b) over USP 4,967,261 to Niki et al., USP 4,801,999 to Hayward et al. or Michii. These rejections are respectfully traversed.

Claim 25 recites a common lead 6, 8 with a middle portion that spans two edges of the opening 5 and is not connected to pads, and has end portions formed on the flexible substrate. See, e.g., Fig. 3. As recited in claims 32 and 46, the common lead has a middle portion extending from two edges of the opening, with one portion formed on the flexible substrate.

Niki discloses a lead 32 that spans an opening at three edges. See, e.g., Fig. 2a.

Hayward discloses leads 14, 114, and 44 whose end portions are not formed on a flexible substrate. See, e.g., Figs. 6A, 7, 8, 9, 10 and 12. Furthermore, in Hayward, the leads only span the opening at one edge.

Michii discloses shared leads 6 and 7 whose ends are not formed on a flexible substrate, and only span the opening at one end. See, e.g., Fig. 2.

Accordingly, these rejections should be withdrawn.

The Office Action rejects claims 30, 36 and 40 under 35 U.S.C. §103(a) over Niki and Michii. This rejection is moot.

The Office Action rejects claims 41-43 and 45 under 35 U.S.C. §103(a) over Niki and Michii in view of JP 0831627 to Atsushi . This rejection is moot.

The Office Action rejects claims 41-43 and 45 under 35 U.S.C. §103(a) over USP 5,885,666 to Imamura. This rejection is moot.

II. Conclusion

In view of the foregoing, this application is in condition for allowance. Favorable consideration and prompt allowance is earnestly solicited.

Should the Examiner believe anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,



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JAO:MQB/rlr

Attachments:

Appendix

Notice of Appeal with Petition for Extension of Time

Date: August 28, 2001

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